AMENDMENTS TO THE CLAIMS

1. (Currently amended) A sulfonated aromatic polyetherketone polymer having a backbone and the polymer comprising the repeating structural unit of the formula (I)

$-O-Ar^1(SO_3R)_n-C(CF_3)_2-Ar^1(SO_3R)_n-O-Ar^2-(X-Ar^2)_m-$ (I),

in which Ar^1 and Ar^2 are, independently of one another, divalent aromatic or heteroaromatic radicals which are optionally substituted by one or more monovalent organic groups which are inert under the conditions of use or sulfonic acid groups, R is hydrogen, an alkali metal or alkaline earth metal ion or an ammonium ion, n is present and is an integer up ~~is an integer from 0~~ to 3, m is 0, 1 or 2 and X is a -CO-, -O-, C_pH_{2p}-, C_pH_{2p}-, $-C_pF_{2p}$- or -S- group, in which p is an integer from 1 to 10 and which has an ion exchange capacity of between 0.5 and 3.0 meq ($-SO_3H$)/g of polymer and with the proviso that at least one SO_3R group is present in said backbone.

2. (Original) A sulfonated aromatic polymer as claimed in claim 1, which besides the repeating structural unit of the formula I, comprises the repeating structural unit of the formula II

$-O-Ar^1(SO_3R)_n-C(CH_3)_2-Ar^1(SO_3R)_n-O-Ar^2-(Y-Ar^2)_m-$ (II),

in which Ar^1, Ar^2, R, m and n have the meaning defined in claim 1, and Y is a -CO-, -O-, $-C_pH_{2p}$-, $-C_pF_{2p}$-, -S- or $-SO_2$- group in which p is an integer from 1 to 10.

3-18. (Cancelled)

19. (Previously presented) The sulfonated aromatic polymer as claimed in claim 1, wherein X is -CO-.

20. (Previously presented) The sulfonated aromatic polymer as claimed in claim 1, wherein Ar^1 and Ar^2 are, independently of one another, phenylene, naphthylene or biphenylene.

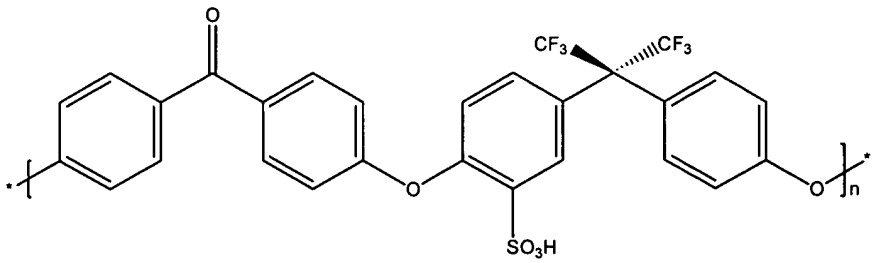
21. (Previously presented) The sulfonated aromatic polymer as claimed in claim 1, which further comprises the repeating structural unit of the formula III

$$-O\text{-}Ar^3(SO_3R)_n\text{-}O\text{-}Ar^2\text{-}(Z\text{-}Ar^2)_m\text{-} \qquad (III),$$

in which Ar^2, R, m and n have the meaning defined in claim 1, Z is a -CO-, -O-, $-C_pH_{2p}$-, $-C_pF_{2p}$-, -S- or $-SO_2$- group in which p is an integer from 1 to 10, and Ar^3 is a divalent aromatic or heteroaromatic radical which is optionally substituted by one or more monovalent organic groups which are inert under the conditions of use.

22. (Previously presented) The sulfonated aromatic polymer as claimed in claim 21, wherein the molar proportion of the repeating structural unit of the formula I is 10-50% and the molar proportion of the repeating structural unit of the formula III is 90-50%.

23. (Currently amended) A sulfonated aromatic polymer which consists essentially of the repeating structural unit of the following formula:



~~wherein n is an integer up to 3~~.

Claim 24 cancelled

25. (Previously presented) A membrane comprising the sulfonated polymer as claimed in claim 1.

26. (Previously presented) The membrane as claimed in claim 25, which has a proton conductivity in contact with liquid water, determined by impedance spectroscopy in water at 80°C, of between 120 and 350 mS/cm.

27. (Previously presented) The membrane as claimed in claim 25, which comprises as further polymer component a sulfonated, aminated or else underivatized aromatic polymer.

28. (Previously presented) The membrane as claimed in claim 25, which has a thickness of between 10 and 150 μm.

29. (Currently amended) A method for producing a membrane as claimed in claim 25, comprising the steps of:

(i) dissolving a sulfonated aromatic polymer comprising the repeating structural unit of the formula (I) or its salt form,

$$-O\text{-}Ar^1(SO_3R)_n\text{-}C(CF_3)_2\text{-}Ar^1(SO_3R)_n\text{-}O\text{-}Ar^2\text{-}(X\text{-}Ar^2)_m- \quad (I),$$

in which Ar^1 and Ar^2 are, independently of one another, divalent aromatic or heteroaromatic radicals which are optionally substituted by one or more monovalent organic groups which are inert under the conditions of use or sulfonic acid groups, R is hydrogen, an alkali metal or alkaline earth metal ion or an ammonium ion, n <u>is present and is an integer up</u> ~~is an integer from 0~~ to 3, m is 0, 1 or 2 and X is a -CO-, -O-, $-C_pH_{2p}-$, $-C_pF_{2p}-$ or -S- group, in which p is an integer from 1 to 10,

in an aprotic organic solvent,

(ii) spreading the solution on a support, and

(iii) evaporating the solvent to form the membrane.

30. (Previously presented) The method for producing a membrane as claimed in claim 29, wherein the solution is DMF, DMAC, NMP or DMSO and said polymer has a concentration being between 3 and 30% by weight.

31. (Previously presented) The method for producing a membrane as claimed in claim 29, wherein the salt forms of the polymer are employed and wherein the salt forms can be converted into the acid form by treatment with an acid after production of the membrane.

32. (Previously presented) The method for producing a membrane as claimed in claim 29, wherein the remaining solvent or salts are removed after the membrane production by a washing medium.

33. (Previously presented) The sulfonated aromatic polymer as claimed in claim 2, wherein Ar^1 and Ar^2 are, independently of one another, 1,3- phenylene or 1,4-phenylene.

34. (Previously presented) The sulfonated aromatic polymer as claimed in claim 1, wherein Ar^1 and Ar^2 are, independently of one another, 1,3- phenylene or 1,4-phenylene.

35. (Currently amended) The sulfonated aromatic polymer as claimed in claim 2, which further comprises the repeating structural unit of the formula III

$$-O\text{-}Ar^3(SO_3R)_n\text{-}O\text{-}Ar^2\text{-}(Z\text{-}Ar^2)_m- \qquad (III),$$

in which Ar^2 is a divalent aromatic or heteroaromatic radicals which is optionally substituted by one or more monovalent organic groups which are inert under the

conditions of use or sulfonic acid groups,

R is hydrogen, an alkali metal or alkaline earth metal ion or an ammonium ion,

n is present and is an integer up ~~is an integer from 0~~ to 3,

m is 0, 1 or 2,

Z is a -CO-, -O-, $-C_pH_{2p}-$, $-C_pF_{2p}-$, -S- or $-SO_2-$ group in which p is an integer from 1 to 10, and Ar^3 is a divalent aromatic or heteroaromatic radical which is optionally substituted by one or more monovalent organic groups which are inert under the conditions of use.

36. (Previously presented) The sulfonated aromatic polymer as claimed in claim 35, wherein the molar proportion of the repeating structural unit of the formula I and formula II is 10-50% and the molar proportion of the repeating structural unit of the formula III is 90-50%.

37. (Previously presented) The sulfonated polymer as claimed in claim 36, which has an ion exchange capacity of between 1.0 and 2.0 meq ($-SO_3H$)/g of polymer.

38. (Previously presented) The membrane as claimed in claim 25, which comprises as further polymer a polyether sulfone, polysulfone, polybenzimidazole or polyether ketone and the membrane has a thickness of between 20 and 60 μm.

39. (Previously presented) The membrane as claimed in claim 31, wherein said salt forms of the polymer are NH_4, Li, Na or K salts.

40. (Previously presented) The method as claimed in claim 32, wherein said washing medium is a 5% strength mineral acid in water.

41. (Previously presented) A fuel cell which comprises the membrane as claimed in claim 25.

42. (Previously presented) The fuel cell as claimed in claim 41, wherein the fuel cell is a direct methanol fuel cell.

43. (Previously presented) A high-performance capacitor which comprises the membrane as claimed in claim 25.

44. (Previously presented) A dialysis apparatus which comprises the membrane as claimed in claim 25.